

In re Patent Application of:
RAYNOR
Serial No. 10/786,878
Filing Date: FEBRUARY 25, 2004

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REMARKS

The Examiner is thanked for the thorough examination of the present application and for the courtesies extended in the Examiner Interview of November 30, 2005. During the interview, the Examiner helpfully clarified that the layer in the Rhodes patent referenced as 160 or 116 in the prior Official Action is meant as layer 106.

Independent Claim 20 is amended to correct a minor typographical error without narrowing the scope of the claim for any reason relating to patentability.

The patentability of the claims is discussed in greater detail below. Favorable reconsideration is respectfully requested.

I. The Claimed Invention

Independent Claim 1, for example, is directed to an image sensing structure including a photodiode comprising a layer of a first conductivity type, and a well of a second conductivity type having opposing sides and positioned in the layer. The well defines a collection node. The photodiode further comprises an isolation trench at least partially bounding an upper portion of the well at the opposing sides thereof.

Independent Claim 20 is directed to a CMOS image sensing structure comprising a semiconductor substrate, and

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the photodiode of Claim 11 in the semiconductor substrate. In addition, the layer is of a P-type conductivity, and the well is of an N-type conductivity.

II. The Claims Are Patentable

The Examiner rejected independent Claims 11 and 20 as unpatentable over the Rhodes patent. The Examiner contends that the Rhodes patent discloses a well 26 (on the left side of FIG. 8) of a second conductivity type having opposing sides and positioned in the gate oxide layer 106. The Examiner then improperly characterizes that the Rhodes patent discloses an isolation trench 114 at least partially bounding an upper portion of the well 26 at the opposing sides thereof.

In contrast, independent Claim 11, for example, recites a well of a second conductivity type having opposing sides and positioned in a layer having a first conductivity type, and an isolation trench at least partially bounding an upper portion of the well at the opposing sides thereof. The Rhodes patent fails to provide such. Instead, the gate oxide layer 106 of the Rhodes patent has no conductivity type - its an oxide. In addition, the isolation trench 114 partially bounds only one side of the well 26. Independent Claim 20 recites features similar to Claim 11.

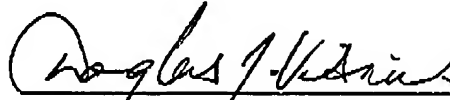
Accordingly, independent Claims 11 and 20 are patentable. Their respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art and require no further discussion herein.

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CONCLUSIONS

In view of the arguments presented above, it is submitted that all of the claims are patentable. Accordingly, a Notice of Allowance is respectfully requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Respectfully submitted,



DOUGLAS J. WISNIUS
Reg. No. 48,012
Allen, Dyer, Doppelt, Milbrath
& Gilchrist, P.A.
255 S. Orange Avenue, Suite 1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330
407-841-2343 fax
Agent for Applicant

CERTIFICATE OF FACSIMILE TRANSMISSION

I HEREBY CERTIFY that the foregoing correspondence has been forwarded via facsimile number 571-273-8300 to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 this 28th day of November, 2005.

